CITY OF BROCKTON
RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2007

TABLE OF CONTENTS

P:\Actrl\13926\2007\[Brockton07_Val.xls]Output

Report Summary:

Highlights	**January 1, 2006**	**January 1, 2007**
Contributions		
Funding Schedule FY 2008	$10,340,234	$10,340,234
Funding Schedule FY 2009	10,606,555	10,606,555
Funded Ratios		
GAS No. 25	86.7%	89.2%
Participants		
Actives	1,857	1,843
Retirees and Beneficiaries	1,037	1,045
Vested	0	0
Inactives	246	282
Disabled	183	188
Total	3,323	3,358
Payroll		
Payroll of Active Members	$69,892,659	$72,260,162
Average Payroll	37,637	39,208
Normal Cost		
Employer	4,118,450	4,124,420
Employee	5,628,453	5,907,358
Administrative Expenses	600,000	650,000
Total	10,346,903	10,681,778
Actuarial Accrued Liabilities		
Actives	173,954,428	182,658,289
Retirees, Beneficiaries, Disabilities and Inactives	225,550,682	238,552,679
Total	399,505,110	421,210,968
Actuarial Value of Assets	346,311,739	375,863,460
Unfunded Actuarial Accrued Liabilities	$53,193,371	$45,347,508

Introduction

This report presents the City of Brockton actuarial valuation findings as of January 1, 2007, under the Commonwealth of Massachusetts Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2007.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of Brockton Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2007.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

The unfunded accrued liability decreased from $53,193,371 to $45,347,508. The decrease was greater than expected due to net actuarial gains. The primary components of the favorable experience were retiree mortality and an annual investment return on assets of 11.8%, greater than the 8% assumption.

Source	(Gain) / Loss
Investment Return	(13,005,016)
Salary Increases	772,587
New Participants	378,298
Active – Retirements	2,417,380
Active – Terminations	747,884
Active – Mortality	294,597
Active – Disability	1,421,203
Inactive Mortality	(101,836)
Other	623,531
Total	(6,451,373)

P:\Actrl\13926\2007\[Brockton07_Val.xls]Output

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2006	January 1, 2007
Superannuation	$6,784,853	$7,085,449
Termination	835,921	814,870
Death	496,466	512,503
Disability	1,629,663	1,618,956
Administrative Expenses	600,000	650,000
Total Normal Cost	10,346,903	10,681,778
% of Pay	14.8%	14.8%
Employee Contributions	5,628,453	5,907,358
% of Pay	8.1%	8.2%
Employer Normal Cost	$4,718,450	$4,774,420
% of Pay	6.8%	6.6%

P:\Actrl\13926\2007\[Brockton07_Val.xls]Output

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits earned by the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2006	January 1, 2007
Actives		
Superannuations	$153,849,952	$161,228,939
Termination	2,980,849	3,006,443
Death	5,557,207	5,793,655
Disability	11,566,420	12,629,252
Retirees and Inactives		
Retirees and Beneficiaries	166,008,847	175,713,463
Terminated (Refund)	1,168,817	1,522,563
Disabled	58,373,018	61,316,653
Total	$399,505,110	$421,210,968

P:\Actrl\13926\2007\[Brockton07_Val.xls]Output

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference betwee the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2006	January 1, 2007
Actives		
Superannuation	$220,227,992	$230,125,125
Termination	6,542,899	6,579,440
Death	10,028,799	10,389,605
Disability	29,608,685	30,656,140
Retirees and Inactives		
Retirees and Beneficiaries	166,008,847	175,713,463
Terminated (Refund)	1,168,817	1,522,563
Disabled	58,373,018	61,316,653
Total	$491,959,057	$516,302,989

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2006	January 1, 2007
Cash equivalents	$43,411,383	$8,423,560
Short term investments	0	0
Fixed income securities	90,631,924	82,019,236
Equities	162,612,388	214,009,991
International	31,854,934	42,341,859
Real Estate	8,986,091	19,370,459
Venture Capital	0	0
Other	9,573,708	8,953,596
Accounts receivable	865,583	1,340,964
Accounts payable	(2,652,413)	(1,419,533)
Accrued income	1,028,141	823,331
Total Market Value	$346,311,739	$375,863,460
Total Actuarial Value	$346,311,739	$375,863,460

P:\Actrl\13926\2007\[Brockton07_Val.xls]Output

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2006	January 1, 2007
Actuarial Accrued Liability	$399,505,110	$421,210,968
Actuarial Assets	346,311,739	375,863,460
Unfunded Actuarial Accrued Liability	$53,193,371	$45,347,508
Funded Status	86.7%	89.2%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2018
  $ 44,780,201 over 11 years with 2.0% increasing payments
- Level amortization of the Early Retirement Incentive by June 30, 2019
  $ 567,306 over 12 years
- Interest adjustment for payments deposited at the beginning of the fiscal year.

The pension appropriation is shown in Table VII and unchanged from the schedule developed based on the prior actuarial valuation..

Table VII

	January 1, 2006
Normal cost	$4,845,674
Amortization payment of the prior accrued liability	5,290,786
Amortization payment of 2002 ERI liability	69,703
Total cost	$10,206,163
% of Pay	14.6%
Fiscal 2008 cost	$10,606,555
Fiscal 2009 cost	$10,878,198

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule. Its based on the January 1, 2006 actuarial valuation. The board voted to retain the schedule for FYE09. Following the 2008 actuarial valuation the board will re-examine the funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be spread over the fiscal year.

The employer total cost, as a percentage of payroll, is expected to decrease gradually over the next 14 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. For FYE 2008, the total cost represents on average about 14.5% of payroll, decreasing to 11.4% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of about 5.0% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

P:\Actrl\13926\2007\[Brockton07_Val.xls]Approp. Results

Appropriation Forecast from 2006 Actuarial Valuation

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2007	$69,892,659	$5,628,453	$4,903,557	$5,436,677	$10,340,234	14.8	86.7
2008	$73,037,829	$5,966,840	$5,035,772	$5,570,783	$10,606,555	14.5	87.5
2009	$76,324,531	$6,324,284	$5,169,956	$5,708,242	$10,878,198	14.3	88.3
2010	$79,759,135	$6,701,816	$5,306,020	$5,849,137	$11,155,157	14.0	89.2
2011	$83,348,296	$7,100,518	$5,443,860	$5,993,554	$11,437,414	13.7	90.0
2012	$87,098,969	$7,521,532	$5,583,360	$6,141,582	$11,724,942	13.5	90.9
2013	$91,018,423	$7,966,060	$5,724,393	$6,293,311	$12,017,704	13.2	91.8
2014	$95,114,252	$8,435,363	$5,866,811	$6,448,833	$12,315,644	12.9	92.8
2015	$99,394,393	$8,930,773	$6,010,456	$6,608,242	$12,618,698	12.7	93.7
2016	$103,867,141	$9,453,688	$6,155,148	$6,771,638	$12,926,786	12.4	94.7
2017	$108,541,162	$10,005,580	$6,300,692	$6,939,118	$13,239,810	12.2	95.7
2018	$113,425,515	$10,588,000	$6,446,870	$7,110,785	$13,557,655	12.0	96.8
2019	$118,529,663	$11,202,575	$6,593,445	$7,286,743	$13,880,188	11.7	97.8
2020	$123,863,498	$11,851,022	$6,740,157	$7,394,664	$14,134,821	11.4	98.9
2021	$129,437,355	$12,535,143	$6,886,722	$0	$6,886,722	5.3	100.0
2022	$135,262,036	$13,256,837	$7,032,828	$0	$7,032,828	5.2	100.0
2023	$141,348,827	$14,018,100	$7,178,139	$0	$7,178,139	5.1	100.0
2024	$147,709,525	$14,821,032	$7,322,286	$0	$7,322,286	5.0	100.0
2025	$154,356,453	$15,667,841	$7,464,870	$0	$7,464,870	4.8	100.0
2026	$161,302,494	$16,560,850	$7,605,460	$0	$7,605,460	4.7	100.0
2027	$168,561,106	$17,502,502	$7,743,586	$0	$7,743,586	4.6	100.0
2028	$176,146,356	$18,495,367	$7,878,742	$0	$7,878,742	4.5	100.0
2029	$184,072,942	$19,327,659	$8,233,286	$0	$8,233,286	4.5	100.0
2030	$192,356,224	$20,197,404	$8,603,784	$0	$8,603,784	4.5	100.0
2031	$201,012,254	$21,106,287	$8,990,954	$0	$8,990,954	4.5	100.0
2032	$210,057,806	$22,056,070	$9,395,547	$0	$9,395,547	4.5	100.0
2033	$219,510,407	$23,048,593	$9,818,346	$0	$9,818,346	4.5	100.0
2034	$229,388,375	$24,085,779	$10,260,172	$0	$10,260,172	4.5	100.0
2035	$239,710,852	$25,169,639	$10,721,880	$0	$10,721,880	4.5	100.0
2036	$250,497,840	$26,302,273	$11,204,364	$0	$11,204,364	4.5	100.0
2037	$261,770,243	$27,485,876	$11,708,561	$0	$11,708,561	4.5	100.0
2038	$273,549,904	$28,722,740	$12,235,446	$0	$12,235,446	4.5	100.0

* Calendar basis

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0 or in a surplus position. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2006	January 1, 2007
(1)	Actuarial Accrued Liability	$399,505,110	$421,210,968
(2)	Actuarial Value of Assets	346,311,739	375,863,460
(3)	Unfunded Actuarial Accrued Liability	53,193,371	45,347,508
(4)	Funded Ratio (2)/(1)	86.7%	89.2%
(5)	Covered Payroll	$69,892,659	$72,260,162
(6)	UAAL as a percentage of payroll: (3)/(5)	76.1%	62.8%
(7)	Annual Required Contribution (ARC)	$19,395,599	$10,606,555
(8)	Net Pension Obligation	$0	($95,099,678)

P:\Actrl\13926\2007\[Brockton07_Val.xls]PERAC Ann'l Stmt

PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2007.

The normal cost for employees on that date was:	$5,907,358	8.2% of pay
The normal cost for the employer was:	4,124,420	5.7% of pay

The actuarial liability for active members was:	$182,658,289
The actuarial liability for retired members was:	238,552,679
Total actuarial accrued liability:	421,210,968
System assets as of that date:	375,863,460
Unfunded actuarial accrued liability:	$45,347,508

The ratio of system's assets to total actuarial liability was 89.2%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.0%
Rate of Salary Increase:	4.8%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/07	$375,863,460	$421,210,968	$45,347,508	89.2%	$72,260,162	62.8%
01/01/06	346,311,739	399,505,110	53,193,371	86.7%	69,892,659	76.1%
01/01/05	233,724,000	376,361,000	142,638,000	62.1%	69,028,000	206.6%
01/01/04	208,286,000	359,825,000	151,539,000	57.9%	67,054,000	226.0%
01/01/03	168,502,000	342,625,000	174,123,000	49.2%	65,032,000	267.7%
01/01/02	191,921,000	326,280,000	134,359,000	58.8%	58,793,000	228.5%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

P:\Actrl\13926\2007\Report\[salACT1.xls]Actives

Age/Service Distribution with Salary as of January 1, 2007

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	44	1	0	0	0	0	0	0	0	45
	15,614	15,278	0	0	0	0	0	0	0	15,606
25-29	110	12	0	0	0	0	0	0	0	122
	23,910	35,740	0	0	0	0	0	0	0	25,073
30-34	79	65	15	0	0	0	0	0	0	159
	32,113	56,322	57,173	0	0	0	0	0	0	44,374
35-39	61	85	51	4	0	0	0	0	0	201
	26,754	54,144	62,786	57,660	0	0	0	0	0	48,094
40-44	91	90	52	16	15	1	0	0	0	265
	22,064	35,064	57,435	70,451	64,835	104,424	0	0	0	39,073
45-49	68	86	47	21	34	5	0	0	1	262
	21,660	30,359	41,370	70,316	72,929	51,070	0	0	12,637	39,131
50-54	50	69	53	33	24	25	13	0	0	267
	27,057	33,441	29,593	41,524	61,047	77,027	64,978	0	0	40,579
55-59	33	43	41	31	42	27	33	10	2	262
	23,240	25,868	26,046	35,932	42,259	75,960	73,419	47,621	62,431	41,644
60-64	17	28	33	17	38	9	17	22	4	185
	27,653	25,463	39,491	31,039	37,569	51,516	69,594	63,184	60,103	41,723
65-69	6	11	6	3	10	2	6	2	1	47
	21,674	21,853	39,396	38,324	46,132	51,849	36,695	68,082	70,907	36,469
70+	2	4	2	2	5	3	6	2	2	28
	11,569	38,759	33,148	32,588	69,152	22,282	22,626	33,046	62,859	37,494
Total Employees	561	494	300	127	168	72	75	36	10	1,843
Average Salary	24,438	38,466	44,110	47,453	53,136	69,036	64,088	57,459	57,454	39,782

P:\Actrl\13926\2007\Report\[salRET1.xls]Retirees

Retiree Distribution as of January 1, 2007

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	1	1	0	17,928	17,928
45-49	1	3	4	26,237	21,428	47,665
50-54	6	2	8	119,419	27,456	146,874
55-59	45	11	56	2,622,504	116,189	2,738,693
60-64	76	36	112	3,157,605	447,243	3,604,848
65-69	78	66	144	2,922,630	904,803	3,827,433
70-74	95	87	182	2,410,080	950,762	3,360,842
75-79	112	95	207	2,122,538	784,633	2,907,171
80-84	103	86	189	1,814,550	685,401	2,499,951
85-89	40	48	88	549,220	301,079	850,298
90-94	25	19	44	242,308	176,670	418,977
95-99	6	4	10	39,066	12,465	51,532
Total	587	458	1,045	16,026,156	4,446,057	20,472,213
Average (Age/Payment)	74.1	75.8	74.8	27,302	9,708	19,591
Frequency Percent	56.2	43.8	100.0	78.3	21.7	100.0

P:\Actrl\13926\2007\Report\[salDIS1.xls]Disabled

Disabled Retiree Distribution as of January 1, 2007

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	1	1	0	49,224	49,224
35-39	1	0	1	28,296	0	28,296
40-44	1	1	2	46,327	42,158	88,485
45-49	5	0	5	122,679	0	122,679
50-54	11	3	14	388,615	15,346	403,961
55-59	26	0	26	1,122,673	0	1,122,673
60-64	40	1	41	1,535,820	28,627	1,564,447
65-69	33	3	36	1,337,001	35,113	1,372,113
70-74	26	0	26	780,593	0	780,593
75-79	14	0	14	350,555	0	350,555
80-84	11	1	12	327,287	17,242	344,529
85-89	7	1	8	232,581	19,909	252,490
90-94	3	0	3	82,977	0	82,977
95-99	0	0	0	0	0	0
Total	178	11	189	6,355,404	207,619	6,563,023
Average (Age/Payment)	66.9	60.7	66.6	35,705	18,874	34,725
Frequency Percent	94.2	5.8	100.0	96.8	3.2	100.0

P:\Actrl\13926\2007\[Brockton07_Val.xls]Cash Flow

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2007	$28,316,818	$5,628,453	$10,340,234	$29,376,775	$17,028,644
2008	29,411,278	5,966,840	10,606,555	30,701,189	17,863,306
2009	30,622,816	6,324,284	10,878,198	32,088,058	18,667,724
2010	31,745,205	6,701,816	11,155,157	33,543,085	19,654,853
2011	33,034,392	7,100,518	11,437,414	35,070,883	20,574,424
2012	34,140,670	7,521,532	11,724,942	36,679,805	21,785,609
2013	35,255,028	7,966,060	12,017,704	38,385,725	23,114,461
2014	36,405,759	8,435,363	12,315,644	40,196,994	24,542,241
2015	37,594,050	8,930,773	12,618,698	42,121,523	26,076,945
2016	38,821,127	9,453,688	12,926,786	44,167,871	27,727,218
2017	40,088,256	10,005,580	13,239,810	46,345,286	29,502,420
2018	41,396,744	10,588,000	13,557,655	41,506,194	24,255,104
2019	42,747,942	11,202,575	13,880,188	43,185,523	25,520,344
2020	44,143,243	11,851,022	14,134,821	45,109,995	26,952,596
2021	45,584,087	12,535,143	6,886,722	54,652,306	28,490,085
2022	47,071,960	13,256,837	7,032,828	56,923,699	30,141,404
2023	48,608,398	14,018,100	7,178,139	59,328,018	31,915,859
2024	50,194,985	14,821,032	7,322,286	61,875,195	33,823,528
2025	51,833,359	15,667,841	7,464,870	64,575,974	35,875,326
2026	53,525,210	16,560,850	7,605,460	67,441,976	38,083,077
2027	55,272,283	17,502,502	7,743,586	70,485,777	40,459,582
2028	57,076,381	18,495,367	7,878,742	73,932,675	43,230,403
2029	58,939,365	19,327,659	8,233,286	77,381,843	46,003,423
2030	60,863,157	20,197,404	8,603,784	81,053,339	48,991,370
2031	62,849,742	21,106,287	8,990,954	84,964,410	52,211,909
2032	64,901,170	22,056,070	9,395,547	89,133,715	55,684,163
2033	67,019,556	23,048,593	9,818,346	93,581,453	59,428,835
2034	69,207,087	24,085,779	10,260,172	98,329,475	63,468,339
2035	71,466,020	25,169,639	10,721,880	103,401,436	67,826,935
2036	73,864,679	26,302,273	11,204,364	108,820,344	72,462,302

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2008, and does not take into account any subsequent changes.

1. <u>Administration</u>

Each of the 107 contributory retirement systems for public employees for the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. <u>Participation</u>

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) <u>Group 1</u>: Most general employees in State and local government

(ii) <u>Group 2</u>: Certain specified hazardous duty positions

(iii) <u>Group 3</u>: State police officers and inspectors

(iv) <u>Group 4</u>: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	Additional 2.0% of Salary in excess of $30,000

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. <u>Service Retirement</u>

a. <u>Eligibility</u>:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

(iv) if an employee is a State Police officer (Group 3), attainment of age 50

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at	Percentage of Average Salary		
Retirement	Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For Group 3 (State Police), the benefit is 50% of the participant's final year's rate of regular salary, plus an additional 1% for each year of service in excess of 20 years. In addition, for veterans (all groups) there is an additional benefit of $15 per year for each year of service, up to a maximum of 20 years of service.

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. <u>Ordinary Disability</u>

a. <u>Eligibility</u>:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. <u>Benefit Amount</u>:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. <u>Survivor Benefits</u>

a. <u>Occupational Death</u>:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. <u>Non-Occupational Death</u>:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. <u>Member Data</u>

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. <u>Valuation Date</u>

January 1, 2008.

3. <u>Actuarial Cost Method</u>

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. <u>Rate of Investment Return</u>

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.0% per annum.

5. <u>Cost-of-Living Increases</u>

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 per year.

6. Salary Scale

The assumed annual rates for salary increases including longevity are illustrated by the following rates:

Service	General Employees	Police and Fire Employees
0	7.00%	8.00%
1	6.50%	7.50%
2	6.50%	7.00%
3	6.00%	6.50%
4	6.00%	6.00%
5	5.50%	6.00%
6	5.50%	5.50%
7	5.00%	5.50%
8	5.00%	5.25%
9+	4.75%	5.25%

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC).

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees
0	0.150	0.015
1	0.120	0.015
2	0.100	0.015
3	0.090	0.015
4	0.080	0.015
5	0.076	0.015
10	0.054	0.015
15	0.033	0.000
20	0.020	0.000
25	0.010	0.000
30+	0.000	0.000

9. Annual Rate of Mortality

It is assumed that both preretirement and postretirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	General Employees	Police and Fire Employees
20	0.0001	0.0010
30	0.0003	0.0030
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for plan year 2007 is $650,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Brockton Retirement System contributing as of January 1, 2007, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost is reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

Daniel W. Sherman

Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 05-4086

July 2007

BREAKOUTS

P:\Actrl\13926\2007\[Brockton07_Val.xls]Breakouts

Breakouts

	Total	All Others/City of Brockton	Brockton Redevelopment Authority	Private Industry Council	Brockton Housing Authority
(1) Participants					
(a) Actives	1,843	1,748	3	18	74
(b) Retirees and Beneficiaries	1,045	983	2	12	48
(c) Vested	0	0	0	0	0
(d) Inactive (Refund)	282	269	2	8	3
(e) Disabled Retirees	188	183	1	1	3
(f) Total	3,358	3,183	8	39	128
(2) Payroll of Active Participants	72,260,162	67,659,817	193,989	825,175	3,581,181
Percent of Total Payroll	100.00%	93.63%	0.27%	1.14%	4.96%
(3) Normal Cost					
(a) Total Normal Cost	10,031,778	9,527,746	8,981	105,876	389,175
(b) Expected Employee Contributions	5,907,358	5,553,623	7,782	68,866	277,087
(c) Administrative Expenses	650,000	617,342	582	6,860	25,216
(d) Net Employer Normal Cost (a) - (b) + (c)	4,774,420	4,591,465	1,781	43,870	137,304
(4) Actuarial Accrued Liability	421,210,968	398,969,386	1,244,759	3,875,560	17,121,263
(5) Assets*	375,863,460	361,766,820	788,924	2,456,317	10,851,399
(6) Unfunded Actuarial Accrued Liability (4) - (5)	45,347,508	37,202,566	455,835	1,419,243	6,269,864
(8) ERI	69,703	0	0	0	69,703
(10) Fiscal 2008 Cost	10,340,234	9,470,423	56,263	214,124	959,365
(11) Fiscal 2008 Cost - Assuming late payment for PIC and Housing	10,606,552	9,470,423	50,135	218,066	867,928
(12) Percentage of total	100.00%	89.29%	0.47%	2.06%	8.18%
(13) Fiscal 2009 Cost - Estimated	10,878,198	9,584,465	59,190	225,265	1,009,278
(14) Percentage of total	100.00%	88.11%	0.54%	2.07%	9.28%

* Allocation of assets based on the ratio of the Actuarial Accrued Liability, adjusted by a credit of $108,901,359 for the City of Brockton